IN THE CLAIMS:

Please AMEND claims 22 and 24 as indicated below.

1. (PREVIOUSLY PRESENTED) An optical device, comprising:

a substrate having a first surface and a second surface, wherein the first surface of the substrate is opposite the second surface of the substrate;

a light input portion on the first surface of the substrate;

a first multi-layer film formed on the first surface of the substrate;

a fixing material having substantially a same thermal expansion coefficient as the substrate and fixed to the first multi-layer film;

a second multi-layer film formed on the second surface of the substrate; and

a stress correction film formed on the second multi-layer film, correcting distortion of the substrate due to a difference in stress between the first and second multi-layer films formed on the first and second surfaces, respectively, wherein

light enters the substrate through the light input portion to be reflected between the first and second multi-layer films,

the fixing material does not block the light from entering the substrate through the light input portion, and

the fixing material prevents bending of the substrate due to temperature change.

2. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said stress correction film is transparent to light with a specific wavelength, and the optical film thickness is an integral multiple of one half of the specific wavelength.

3. (ORIGINAL) The optical device according to claim 1, wherein said stress correction film is made of SiO_2.

4. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said stress correction film maintains profile irregularity of the substrate at a value of one wavelength or less.

5. (PREVIOUSLY PRESENTED) The optical device according to claim 1, comprising:

a VIPA optical element further comprising:

said substrate being a plate transparent to light with a specific wavelength;

said first multi-layer film;

said light input portion;

said second multi-layer film; and

said stress correction film maintaining the VIPA optical element substantially planar, and

a mirror reflecting and returning the spectral components of light separated by the VIPA optical element to the VIPA optical element, wherein

a dispersion compensator is realized by using said VIPA optical element and said mirror.

6. (CANCELLED)

7. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said fixing material is made of transparent glass or semiconductor.

8. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said fixing material is made of opaque metal or ceramic.

9. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said fixing material is made of copper-tungsten alloy, Kovar alloy, alumina, or BeO.

10. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said fixing material is fixed to the first multi-layer film by organic adhesives, metallic soldering, or low melting point glass.

11. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said fixing material is fixed to the first multi-layer film at a plurality of points.

12. (PREVIOUSLY PRESENTED) The optical device according to claim 1, wherein said substrate is optically connected with said fixing material.

13. (PREVIOUSLY PRESENTED) The optical device according to claim 12, wherein the material of the optically connected surfaces is made of SiO_2.

14. (PREVIOUSLY PRESENTED) A method comprising:

providing a substrate having first and second surfaces opposite to each other, with a light input portion on the first surface;

forming a first multi-layer film on the first surface of the substrate;

fixing a fixing material having substantially a same thermal expansion coefficient as the substrate to the first multi-layer film;

forming a second multi-layer film on the second surface of the substrate; and

forming a stress correction film on the second multi-layer film, correcting distortion of the substrate due to a difference in stress between the first and second multi-layer films, wherein

light enters the substrate through the light input portion to be reflected between the first and second multi-layer films,

the fixing material does not block the light from entering the substrate through the light input portion, and

the fixing material prevents bending of the substrate due to temperature change.

15. (PREVIOUSLY PRESENTED) An optical device, comprising:

a substrate having a first surface and a second surface that is opposite the first surface, with a light input portion on the first surface;

a first reflecting film formed on a portion of the first surface of the substrate;

a second reflecting film formed on the second surface of the substrate;

a fixing material having substantially a same thermal expansion coefficient as the substrate and being fixed to the first reflecting film; and

a stress correction film formed on the second reflecting film, correcting distortion of the substrate due to a difference in stress between the first and second reflecting films, wherein

light enters the substrate through the light input portion to be reflected between the first and second films,

the fixing material does not block the light from entering the substrate through the light input portion, and

the fixing material prevents bending of the substrate due to temperature change.

16. (PREVIOUSLY PRESENTED) An optical device according to claim 1, wherein

light input portion is positioned with respect to the fixing material so that the light input portion projects from the fixing material, so that the fixing material thereby does not block the light from entering the substrate through the light input portion.

17. (PREVIOUSLY PRESENTED) A method according to claim 14, wherein light input portion is positioned with respect to the fixing material so that the light input portion projects from the fixing material, so that the fixing material thereby does not block the light from entering the substrate through the light input portion.

18. (PREVIOUSLY PRESENTED) An apparatus comprising:

a virtually-imaged phased array (VIPA) comprising

a substrate having first and second surfaces opposite to each other,

a light input portion on the first surface of the substrate,

a first reflective film formed on the first surface of the substrate, and

a second reflective film formed on the second surface of the substrate, wherein light enters the VIPA through the light input portion and is then reflected between the first and second reflective films; and

a fixing material having substantially a same thermal expansion coefficient as the substrate, wherein the fixing material is fixed to the first reflective film, prevents bending of the substrate due to temperature change, and does not block the light from entering the VIPA through the light input portion.

19. (PREVIOUSLY PRESENTED) An apparatus according to claim 18, wherein the VIPA further comprising:

a stress correction film formed on the second reflective film, and correcting distortion of the substrate due to a difference in stress between the first and second reflective films.

20. (PREVIOUSLY PRESENTED) An apparatus according to claim 18, wherein light input portion is positioned with respect to the fixing material so that the light input portion projects from the fixing material, so that the fixing material thereby does not block the light from entering the substrate through the light input portion.

21. (PREVIOUSLY PRESENTED) An apparatus according to claim 19, wherein light input portion is positioned with respect to the fixing material so that the light input portion projects

from the fixing material, so that the fixing material thereby does not block the light from entering the substrate through the light input portion.

22. (CURRENTLY AMENDED) An apparatus comprising:

a virtually-imaged phased array (VIPA) having first and second sides opposite to each other, the VIPA comprising:

a substrate~~ having first and second sides opposite to each other~~, and

a light input portion, on the first side of the VIPA, through which light enters the VIPA and thereby enters the substrate; and

a fixing material having substantially a same thermal expansion coefficient as the substrate, wherein the fixing material is fixed to the first side of the VIPA, does not block the light from entering the VIPA through the light input portion, and prevents bending of the substrate due to temperature change.

23. (PREVIOUSLY PRESENTED) An apparatus according to claim 22, wherein light input portion is positioned with respect to the fixing material so that the light input portion projects from the fixing material, so that the fixing material thereby does not block the light from entering the substrate through the light input portion.

24. (CURRENTLY AMENDED) An apparatus comprising:

a virtually-imaged phased array (VIPA) having first and second sides opposite to each other, the VIPA comprising:

a substrate~~ having first and second sides opposite to each other~~, and

a light input portion, on the first side of the VIPA, through which light enters the VIPA and thereby enters the substrate;

a fixing material having substantially a same thermal expansion coefficient as the substrate; and

means for fixing the fixing material to the first side of the VIPA and in a positioned with respect to the light input portion so that the light entering the VIPA through the light input portion is not blocked by the fixing material, and so that the fixing material prevents bending of the substrate due to temperature change.